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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/025,856	02/19/1998	TOSHIYUKI SUDO	862.2176	1080

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EXAMINER

WONG, ALLEN C

ART UNIT PAPER NUMBER

2613

DATE MAILED: 01/12/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/025,856

Applicant(s)

SUDO, TOSHIYUKI

Examiner

Allen Wong

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 14 October 2004.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,3-10,15-17,34 and 36-48 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1,3-10,15-17,34 and 36-48 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☒ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|--|---|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____ |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | 5) <input type="checkbox"/> Notice of Informal Patent Application (PTO-152) |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____ | 6) <input type="checkbox"/> Other: _____ |

DETAILED ACTION

Continued Examination Under 37 CFR 1.114

1. A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on 10/14/04 has been entered.

Response to Arguments

2. Applicant's arguments with respect to claims 1, 34, 36, 37, 41 and 45 have been considered but are moot in view of the new ground(s) of rejection.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

1. Claim 1, 3-10, 15-17, 34 and 36-48 are rejected under 35 U.S.C. 103(a) as being unpatentable over Isono (5,315,377) and Tabata (5,825,456) in view of Drinkwater (5,694,229).

Regarding claims 1, 15-16, 34 and 36-48, Isono discloses an image display system capable of performing stereoscopic display, comprising:

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stereoscopic image display means for displaying a stereoscopic image having stripe parallax images arranged for right and left eyes on first display means (fig.2, element 46), wherein the stripe parallax images arranged for a right eye are displayed on a first stripe area of said first display means and the stripe parallax images arranged for a left eye are displayed on second stripe area of said first display means (fig.2, element 28; col.4, ln.53-57, parallax barriers can be formed, and see fig.2 and col.9, ln.3-30, note the display has the ability to permit the viewer to observe stripe images VP_1 and VP_2 of the stereoscopic image with the right and left eyes, elements 2a and 2b, where VP_1 relates to the train of image elements R1, R2, R3... and VP_2 relates to the train of image elements L1, L2, L3...);

stereoscopic vision control means for displaying a parallax barrier pattern on a second display means such that stripe parallax images of the stereoscopic image displayed on the first and second areas of said first display means are respectively observed with the right and left eyes (fig.2, element 28; col.4, ln.53-57, parallax barriers can be formed, and see fig.2 and col.9, ln.3-30, note the display has the ability to permit the viewer to observe stripe images VP_1 and VP_2 of the stereoscopic image with the right and left eyes, elements 2a and 2b, where VP_1 relates to the train of image elements R1, R2, R3... and VP_2 relates to the train of image elements L1, L2, L3...);

instruction means for instructing to display a new stereoscopic image on a desired position of said first display means (col.5, ln.37-40, col.6, ln.24-50, and fig.10, element 20 is a computer that can process instructions based on user input 6 or preprogrammed instructions); and

display control means for displaying the new stereoscopic image on said first display means so that an observer can obtain a proper stereoscopic vision of the new stereoscopic image (col.5, ln.37-40 and col.6, ln.24-50), with said display control means comprising:

determination means for determining whether a relative positional relationship between the stereoscopic image displayed in a single window generated by generated means and the parallax barrier pattern displayed by said stereoscopic vision control means is a proper positional relationship which allows a proper stereoscopic vision by checking whether the stripe parallax images arranged for the right and left eyes are displayed on the first and second areas of said first display means respectively (fig.1, element 20 and col. 5, lines 37-40, note that a computer 20 determines whether a relative positional relationship between the window and said stereoscopic vision control means of said image display apparatus is a proper positional relationship, where also the user can input commands at element 6; col.7, ln.9-24, the user physically moves from one position to another position, parallax barrier adjusts accordingly); and

adjustment means for, when it is determined that the positional relationship is not proper, adjusting the relative positional relationship to allow a proper stereoscopic vision (fig.1, element 20 and col. 5, lines 37-40, note that a computer adjusts the relative positional relationship to allow a proper stereoscopic vision by changing of the state of window display with the various display control commands, where also the user can input commands at element 6; also, col.4, lines 38-40; note a window is set, thus the window position and size, ie. the display state, can be "freely changed" for displaying

the stereoscopic image; plus, computer 20 can control the image data processor for controlling the driver elements 42, 44, 22, 24 and 57 for adjusting the positional relationship, as disclosed in col.6, ln.51 to col.7, ln.23).

Isono discloses the shifting of the parallax barrier to the left or the right (col.7, ln.13-17 of fig.5, element 56'). Isono does not specifically disclose shifting the stripe parallax images so that the stripe parallax images arranged for the right and left eyes are displayed in the first and second areas, respectively. However, Tabata teaches the shifting the stripe parallax images so that the stripe parallax images arranged for the right and left eyes are displayed in the first and second areas, respectively (col.7, ln.51 to col.8, ln.5 and abstract; note shift amount calculator 37 is used to determine the amount of shifting of the left and right images necessary to provide a proper stereoscopic image). Therefore, it would have been obvious to one of ordinary skill in the art to incorporate the teachings of Isono and Tabata as a whole for providing an enhanced stereoscopic video display apparatus, method and system without adding unnecessary, expensive, extraneous parts, and thus reducing the overall costs of producing high quality stereoscopic image displays (Tabata col.3, ln.19-25).

Although Isono and Tabata do not specifically teach the limitation "without change of the parallax barrier pattern", however, Drinkwater teaches that images can be displayed in that the viewer sees no change in parallax patterns despite parallax changes (col.2, ln.36-43; Drinkwater discloses that constraints are applied such that changes to parallax patterns are not seen by viewer). Therefore, it would have been obvious to one of ordinary skill in the art to combine the teachings of Isono, Tabata and

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Drinkwater, as a whole, for clearer stereoscopic, three-dimensional images to be seen without any discrepancies or anomalies by the viewer for multiple applications such as security devices, etc. (Drinkwater col.2, ln.43-47).

Regarding claims 3, 4, 7, and 8, Isono discloses that changing means moves the window by a distance corresponding to a stripe pitch of the stripe image and that the amount of movement of the window is equal to a minimum pixel pitch of said stereoscopic image display (col. 4, lines 39-57, note that Isono discusses a "variable pitch" which means that the pitch can be adjusted to accommodate one's needs).

Regarding claims 5 and 9, Isono discloses a horizontal stripe image (figure 5, element 28A and 46A) in the screen.

Regarding claims 6 and 10, Isono discloses a vertical stripe image (figure 5, element 28B and 46B) in the screen.

Regarding claim 17, it is obvious to one of ordinary skill in the art that the execution period of said changing means is shortened, while the window is moved, for the changing means to execute the executed commands in an efficient manner.

Contact Information


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Allen Wong whose telephone number is (703) 306-5978. The examiner can normally be reached on Mondays to Thursdays from 8am-6pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Kelley can be reached on (703) 305-4856. The fax phone

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number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).


Allen Wong
Examiner
Art Unit 2613

AW
1/3/05